

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

**EP 0 959 342 A3**

(12)

**EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
12.01.2000 Bulletin 2000/02

(51) Int Cl.7: **G01N 21/35, G01N 21/85,  
B07C 5/342**

(43) Date of publication A2:  
24.11.1999 Bulletin 1999/47

(21) Application number: **99850085.4**

(22) Date of filing: **18.05.1999**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE**  
Designated Extension States:  
**AL LT LV MK RO SI**

(72) Inventor: **Egelberg, Peter**  
**224 75 Lund (SE)**

(74) Representative: **Perklev, Karin Cecilia et al**  
**AWAPATENT AB,**  
**P.O. Box 5117**  
**200 71 Malmö (SE)**

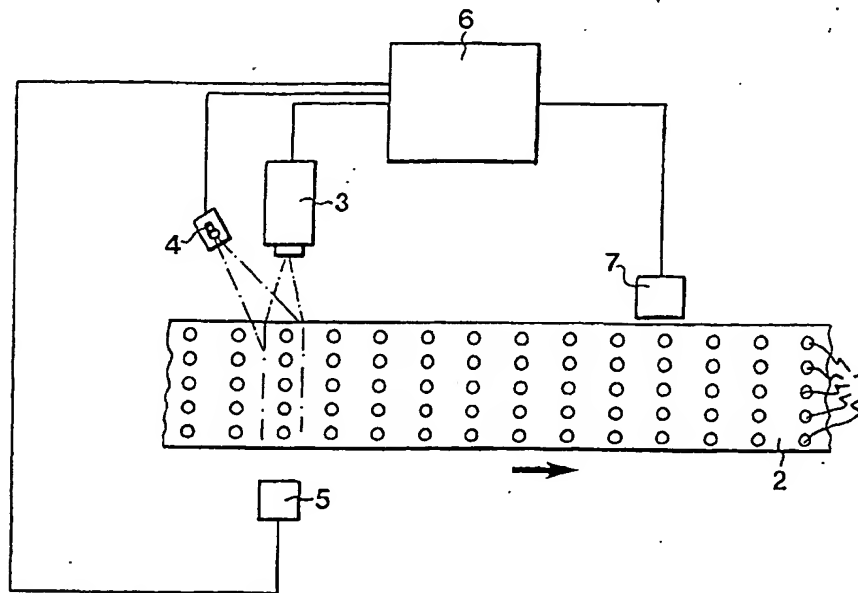
(30) Priority: **19.05.1998 SE 9801776**

(71) Applicant: **AGROVISION AB**  
**S-223 70 Lund (SE)**

**(54) Determination of concentration**

(57) An apparatus for determining the concentration of a first component in a mixture of at least two components, which have different absorption properties in the IR range, comprises image recording means (3; 24) which are adapted to image the mixture by means of IR

radiation to produce at least one image. The apparatus further comprises image processing means (6, 26) which, with the aid of intensity values for pixels in the image which represent the mixture, determine the concentration of the first component in the mixture.

**FIG1****EP 0 959 342 A3**



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 99 85 0085

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.6)
X	WO 96 22511 A (NORTHROP GRUMMAN CORP) 25 July 1996 (1996-07-25) * page 5, line 23 - page 11, line 10; figure 1 *	1-8, 19	G01N21/35 G01N21/85 B07C5/342
X	BARONTI S ET AL: "Principal component analysis of visible and near-infrared multispectral images of works of art" CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS, vol. 39, no. 1, 1 November 1997 (1997-11-01), pages 103-114, XP004097521 ISSN: 0169-7439 * page 103 - page 107 *	1, 2, 4-8, 19	
X	"MEASUREMENT OF OXYGEN AND CARBON CONCENTRATIONS IN SILICON WAFERS BY USING INFRARED VIDICON CAMERA" IBM TECHNICAL DISCLOSURE BULLETIN, vol. 28, no. 3, 1985, pages 1180-1181, XP002112318 * the whole document *	1, 3, 7, 8, 19	TECHNICAL FIELDS SEARCHED (Int.CI.6) G01N
X	TAYLOR S ET AL: "NIR IMAGING SPECTROSCOPY: MEASURING THE DISTRIBUTION OF CHEMICAL COMPONENTS" PROCEEDINGS OF THE INTERNATIONAL NIRS CONFERENCE, 1 January 1989 (1989-01-01), pages 393-404, XP000577996 * page 393 - page 394 *	1, 4-8, 19	
A	WO 96 24835 A (WOLFKING DANMARK AS; DITMARSEN JAN (DK); JENSEN HILMER (DK); PETER) 15 August 1996 (1996-08-15) * page 1, line 5 - page 5, line 7 * * page 5, line 33 - line 34 * -/-	9, 12, 17, 18	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 November 1999	Examiner Tabellion, M
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document</p> <p>T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons &amp;: member of the same patent family, corresponding document</p>			



European Patent  
Office

Application Number

EP 99 85 0085

#### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

#### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☒ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:  
1-15, 17-19
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 99 85 0085

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP 0 767 369 A (PERSTORP ANALYTICAL INC) 9 April 1997 (1997-04-09) * column 1, line 12 - line 27 * * column 3, line 14 - line 30 * -----	12, 17, 18	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>16 November 1999</b>	Examiner <b>Tabellion, M</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



European Patent  
Office

LACK OF UNITY OF INVENTION  
SHEET B

Application Number  
EP 99 85 0085

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-9,17,19

Determination of concentration in an ointment

2. Claims: 10,11

Determination of concentration in a mixture of separate particles

3. Claims: 12-15,18

Determination of concentration in tablets

4. Claim : 16

Determination of concentration and size and/or shape parameter

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 85 0085

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-11-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9622511 A	25-07-1996	US 5606413 A	25-02-1997
		EP 0804719 A	05-11-1997
		TR 960700 A	21-08-1996
WO 9624835 A	15-08-1996	DK 15595 A	01-07-1996
		DK 9096 A	11-08-1996
		AU 4619396 A	27-08-1996
		AU 4619496 A	27-08-1996
		AU 4619596 A	27-08-1996
		CA 2212626 A	15-08-1996
		CA 2212700 A	15-08-1996
		DK 9196 A	11-08-1996
		WO 9624843 A	15-08-1996
		WO 9624830 A	15-08-1996
		EP 0871878 A	21-10-1998
		EP 0808451 A	26-11-1997
		US 5918977 A	06-07-1999
EP 0767369 A	09-04-1997	US 5760399 A	02-06-1998
		CA 2185613 A	03-04-1997
		JP 9178658 A	11-07-1997

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82